

Claims

1. An element reflecting electromagnetic radiation, specifically light, wherein said element comprises a photonic element having a controllable band gap, the photonic element being disposed in the beam path of and/or on a surface reflecting said radiation, for modulating the radiation passing through said element.
- 10 2. The radiation reflecting element of claim 1, wherein said photonic element is controllable by means of electric signals.
- 15 3. The radiation reflecting element of claim 2, wherein said photonic element is essentially composed of a photonic material in a liquid crystal environment, such that a photonic band gap of said photonic material is capable of being influenced by influencing the liquid crystal material in the nematic and/or ferroelectric state by an electric field.
- 20 4. The radiation reflecting element of claim 1, wherein said element is essentially a prism and in particular a triple prism, and said photonic element is provided on at least one, preferably all prism surfaces intended for reflecting said radiation.
- 25 5. The radiation reflecting element of claim 1, wherein said reflecting element is a prism, preferably a triple prism, and said photonic element is disposed on the surface serving for the entrance and the exit of a beam of the radiation.

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6. An object identification system comprising a laser of a determined wavelength for producing an electromagnetic beam, specifically a light beam, and at least one reflecting element of claim 1 provided on an object, wherein at least 5 one, preferably all photonic elements of said reflecting element are chosen such that the reflective properties of the radiation reflecting element are adjustable by controlling the photonic element or elements, more particularly switchable from high reflectivity to low 10 reflectivity, for modulating the reflected light beam with data.

7. A method of modulating a beam of electromagnetic radiation, more specifically of a light beam, using the 15 reflecting element of claim 1 for transmitting data, said beam comprising a component of a wavelength for which said element is switchable, by influencing at least one of the photonic elements thereof, between two states of higher and lower transparency and/or reflectivity.

20 8. The method of claim 7, wherein said beam is essentially composed of radiation of the wavelength that can be influenced.